REMARKS

Claims 1-54 are pending in this application

The final Office Action objects to claims 9-49 as not showing which limitations were deleted. Applicants note that claims 9-49 were newly added with respect to U.S. Patent No. 6,041,109 (hereinafter the '109 patent). Therefore, claims 9-49 are properly shown with all the features underlined and no bracketing per MPEP § 1453 V.D. Applicants note, however, that a marked-up version of the claims showing the changes made with respect to the previously presented claims was provided for the Examiner's convenience with the last response. Accordingly, withdrawal of the objection of claims 9-49 is respectfully requested.

Claims 1-54 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Wheeler, Jr. et al. (U.S. Patent 5,583,920; hereinafter Wheeler '920). The rejection is respectfully traversed.

As an initial matter, Applicants' representative notes that the final Office Action was signed by the Examiner on January 18, 2005 and yet the final Office Action was not mailed until November 21, 2005. This substantial and unexplained delay undermines Applicants' ability to work effectively with the Examiner towards a mutual understanding of the invention in this complex technical field.

Applicants note that various remarks in the final Office Action indicate that the Office continues to hold a mistaken belief that the ISCP of Wheeler, which is an AIN Service Control Point, maintains call state. Before addressing specific points of the rejection, Applicants believe that a general explanation of this issue may be helpful at the outset.

One useful reference that Applicants have previously made of record is a tutorial document provided by the International Engineering Consortium (IEC) entitled "Intelligent Network" (hereinafter referred to as 'IEC tutorial'). Another useful reference previously made of record is the Glossary of AIN standard Bellcore document GR-1299-CORE, Revision 1, October 1988, entitled "AINGR: Switch-Service Control Point (SCP)/Adjunct Interface" (hereinafter 'Bellcore Glossary').

As Applicants have previously explained, a call model is a representation of call-processing activities for establishing, maintaining and clearing a basic call (IEC tutorial, Section 6 at page 9). This definition of the term "call model" is very well known in this art (Bellcore Glossary, page 3).

The term "call state" represents a state that a call goes through from origination to termination. Examples of call states include null, idle, off hook, collecting information, analyzing information, routing, alerting, etc. (IEC tutorial, page 10).

Therefore, the terms "call model" and "call state" have well known meanings in this art. Applicants have used these terms throughout the '109 patent in a manner consistent with their well known meanings.

Contrary to the Examiner's assertions, the AIN-based ISCP of Wheeler '920 does not "maintain call state associated with completing a call in accordance with a call model" (as is recited in, for example, Applicants' claim 1 pertaining to the switch intelligence). The ISCP of Wheeler '920, as with typical SCPs and as well understood in the art, merely provides database lookup support for other network elements at which call state for a call or connection is maintained.

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One indication of whether a network element or system maintains call state is whether a representation of the current state of the call or connection is persistently held in the element, such as a data value held in the memory of a processor, while the call is being processed. As with typical SCPs, the ISCP of Wheeler '920 handles each query/response transaction as an isolated instance, that is, separate from other such transactions.

Between instances of signaling transactions via SS7 TCAP messages, there is nothing in a typical SCP, such as the ISCP of Wheeler '920, that can be examined to determine the current state of a given call. Even for a single call involving multiple SCP queries, each query may actually be dispatched to a different SCP, as explained below. Thus, an AIN SCP, such as the ISCP of Wheeler '920, does not maintain call state for a given call. Having an SCP maintain call state would alter its well-established operating principles in an AIN architecture and render it unsuitable for its intended purpose.

Wheeler '920 describes call processing involving numerous exchanges of signaling messages between the ISCP and other elements. Between one messaging exchange and another, nothing in the ISCP remembers the state of the call. Instead, each query message contains all the information needed for the SCP to fulfill the request in isolation from any other requests. (Wheeler '920 – col. 29, lines 21-59, col. 30, lines 40-45) Each query message is handled without regard for any previous query messages. (Wheeler '920 – col. 31, lines 24-27, lines 39-43 and lines 64-67).

A conventional AIN SCP, such as the ISCP of Wheeler '920, is designed to work as a database from which call handling information may be retrieved. (Wheeler '920 – col. 11, lines 34-36). Although SCPs may optionally be involved in certain types of call

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handling, they do not maintain call state for any particular call. Instead, they respond to isolated, self-contained query/response transactions to achieve retrieval of database information for use by other elements (e.g., SSPs) where call state is maintained. In an AIN architecture, call state is maintained in an SSP (Wheeler '920 – col. 14, lines 31-64). This explains how, in a majority of "ordinary" or simple calls, the **calls are handled without even involving an SCP** (Wheeler '920 – col. 14, lines 50-54).

AIN SCPs are intentionally designed to operate in a stateless manner. Information from a query/response transaction to an SCP for given call is not held in memory in the SCP for a time and then used in fulfillment of, or applied to the interpretation of, a subsequent query. In practice, each query/response transaction needed for handling a given call may be handled by a different SCP, rendering per-call statefulness in the SCP infeasible. Accessing SCP data via isolated transactions allows for load distribution among a pool of SCP processors, accommodating sudden failure of service control points (even during call handling) and permitting carrier inter-operation, where one service provider who is establishing a call consults the service control point of another service provider. Note that, in the latter case, a service provider retrieves call handling data from another service provider but does not share with, nor relinquish to, the other provider any aspect of call control or call state maintenance.

In practical implementations, SCPs are managed as a pool of redundant resources wherein an inbound signaling message, such as a TCAP message, may be dispatched to any one of the SCPs. For load balancing purposes, this distribution is commonly performed in a round-robin fashion to evenly share the processing burden among the available SCPs. Where a given call involves multiple queries, each query may go to a

different SCP. In practice, this is not a problem because call processing interactions are designed with consideration for achieving statelessness and each query message transaction is an <u>isolated, self-contained transaction that does not rely upon any statefulness within the service control point.</u>

The avoidance of statefulness in AIN SCPs also facilitates reliable call processing operation even in the event of failure of an SCP. For example, assume that the handling of a particular call requires an initial database query, such as via a TCAP message, to a first SCP. Then, a short time later, another database access is required for handling of the call, but the first SCP is inaccessible due to failure, overloading or maintenance actions. By virtue of SCP statelessness, the subsequent query, being an entirely self-contained description of relevant call circumstances, will simply go to another SCP and the call will not fail for lack of accessibility to the originally accessed SCP. On the other hand, had the first SCP been relied upon to maintain state for the call, then the state information would be lost and the subsequent query would not be properly handled, resulting in failure of the call.

As another indication that the SCP does not maintain call state, Applicants point out that changing code or data in the SCP will not change the juncture at which an SSP decides to engage or consult the SCP. Therefore, changing the SCP code alone cannot alter the fundamental call state model used by the SSP in the AIN-based call processing architecture - this is mainly because the call model, and the call state in adherence to that call model, is maintained elsewhere rather than in the SCP.

As yet another indication that the SCP does not maintain call state, one might consider that an SCP does not 'enforce' a call model, such as by monitoring current state

and allowing or disallowing transitions among states. If in a hypothetical scenario, an SCP were sent a first query message indicative of a call control call state and then sent a second query that, according to a call model, would be contradictory to the previously indicated call state, the SCP would simply respond to the isolated queries, oblivious to the conflicting indications.

Thus, various characteristics have just been described above that would be indicative of whether an SCP maintains call state and explanation has been offered as to why operating an SCP in this fashion would be contrary to AIN standards and accepted practice. Yet, none of these characteristics is observed in the AIN-based ISCP of Wheeler '920, nor are any other characteristics or explanations evident in Wheeler '920 which contradict the AIN principles to which Wheeler '920 claims to adhere.

REJECTION UNDER 35 U.S.C. § 102(e)

Claims 1-54 have been rejected under 35 USC 102(e) as being anticipated by Wheeler '920. The rejection is respectfully traversed.

Claim 1 recites an apparatus for decentralizing communication services in a telecommunications system comprising a switch intelligence, a switch fabric proxy service and a feature processor. Claim 1 recites that the switch intelligence provides control functions for a switch fabric, is logically separated from said switch fabric and is implemented in a separate network element from said switch fabric. Claim 1 further recites that the switch intelligence is configured to process information received from the switch fabric, the information comprising a facility related event associated with a call, maintain a call state associated with completing the call in accordance with a call model,

the call model indicating how the information will be processed, identify at least one point in call associated with completing the call, and forward a request for a telecommunications function in response to the identified at least one point in call.

The final Office Action states that ISCP 40 of Wheeler '920 is equivalent to the claimed switch intelligence (final Office Action – page 2). Applicants strongly disagree. Wheeler '920 clearly describes that the call state associated with completing the call is maintained in the SSP and not ISCP 40 (Wheeler '920 – col. 14, lines 31-64). That is, no portion of Wheeler '920 supports the notion that ISCP 40 <u>maintains a call state associated with completing the call in accordance with a call model</u>, as required by the switch intelligence of claim 1.

In addition, with respect to claim 1, the final Office Action erroneously construes various terms in Wheeler '920 as being equivalent to various terms recited in claim 1. For example, the final Office Action erroneously construes a 'trigger' as a 'facility related event', 'call processing' as 'a call state', a 'call forwarding application' as a 'call model', and a 'call handling instruction' as a 'point in call' (final Office Action – page 3). This attempt to read various terms in Wheeler '920 on the claim terms is not consistent with the well known meaning of the claim terms. For example, a 'trigger', as is known from AIN terminology, occurs as the result of achieving a given call state according to a call model and determining, at an SSP, that a triggering condition has been met that warrants an SSP consulting an SCP for call handling information (Wheeler '920 – col. 5, lines 32-44; See also IEC tutorial at section 6, page 9-10). A trigger is derived from the operation of a call model and logic at an SSP. A trigger would not be fairly construed by one of ordinary skill in this art to be equivalent to a facility related event, which may

include events such as, for example, "on-hook", "off-hook", "wink", as described in Applicants' disclosure (e.g., '109 patent at col. 7, lines 45-58).

Applicants further disagree that "call processing" can be equated to "a call state", as alleged in the final Office Action. Call processing refers to actions, whereas a call state refers to a particular state of a call. Applicants do not understand how call processing can be construed to be equivalent to a call state and request clarification as to this point in any subsequent communication. In any event, as best understood by Applicants, it appears that the final Office Action is attempting to say that Wheeler '920 shows switch intelligence being configured to "maintain call processing" (although it is difficult understand to what this phrase is intended to refer) and that this act is somehow equivalent to "a call state". As has been amply described above, ISCP 40 of Wheeler '920 does not maintain call state. The mere involvement of ISCP 40 as a database (i.e., SCP database 43) in support of call processing <u>does not mean that ISCP 40 maintains call state in accordance with a call model</u>, as required by claim 1.

Again, in AIN-based call processing, maintaining of call state occurs in the SSP. The disclosure of Wheeler '920 is consistent with this principle. (Wheeler '920 – col. 5, lines 32-50 and col. 14, lines 28-54). Particularly noteworthy are those passages in Wheeler '920 describing how most calls are handled autonomously by an SSP, where call state is in fact maintained in accordance with AIN call processing (Wheeler '920 – col. col. 5, lines 35-39 and col. 14, lines 50-54.) Call state needed for handling the call in Wheeler '920, therefore, is maintained by the SSP. SCPs, such as SCP 43 in Wheeler '920, is only optionally consulted under certain circumstances as decided within the SSP and ISCP 40 is merely a resource to be invoked for certain calls. ISCP 40 is not the

repository for the call model and does not maintain call state in accordance with a call model.

For proper interoperation with other elements that do maintain per-call state information, SCPs are commonly designed with functional logic and data content in support of the various call models. This involvement is not the same as maintaining call state. The mere fact that the data in an SCP can affect handling for calls does not imply that the SCP maintains state for particular call. On the contrary, the fact that call processing involving call state in accordance to a call model can, and <u>most often does occur without involving the SCP, as acknowledged by Wheeler '920 at col. 14, lines 50-54</u>, confirms that the call state for a call is maintained elsewhere rather than in ISCP 40. In some cases, the SSP may change the call state for a given call taking into account information obtained from the SCP, but this does not mean that the SCP maintains the call state. Again, the call state is under the control of the SSP and is maintained by the SSP.

In addition, a 'call forwarding application' is not a 'call model', as alleged in the final Office Action (See Bellcore Glossary at page 3). That is, one of ordinary skill in the art would not equate a call forwarding application with a call model, as indicated in the final Office Action.

Thus, the manner in which Examiner attempts to correlate Applicants' recited features to various aspects of Wheeler '920 are erroneous and contrary to what Wheeler '920 actually describes. The Examiner's attempted correlation is also contrary to the use of these terms in accordance with industry standards and is not consistent with the understanding or use of these terms by those of ordinary skill in the art.

Applicants further note that the final Office Action is pointing to various labels in the figures of Wheeler '920 in support of the rejection. For example, the final Office Action points to various labels in Fig. 5 and 6 as allegedly supporting the notion that ISCP 40 is configured to perform the features of the switch intelligence recited in claim 1 (final Office Action – page 3). Applicants note that the Examiner has not pointed to any portion of the actual description regarding Figs. 5 and 6 in the specification of Wheeler '920 that support his interpretation of these figures. As discussed in detail above, the actual detailed description of Wheeler '920 does not support the Examiner's attempt to equate ISCP 40 with the claimed switch intelligence. In contrast, the full disclosure of Wheeler '920 supports conventional AIN processing in which call state is maintained by the SSP.

Applicants note that in step 4 in Fig. 6 of Wheeler '920, the calling party becomes connected to the IP through a telephone connection. At this time, the call state, as held in the SSP and corresponding to the calling party, goes into an "ACTIVE" state according to an AIN standard call model, representing the active voice channel connection between the originating party and the IP.

It is very important to understand that, during steps 5-11 in Fig. 6, the call state remains unchanged. The call between the call originator and the IP remains connected and, to the SSP, this connection "looks" essentially the same as any other telephone connection. The call state in the SSP correspondingly stays in the "ACTIVE" state throughout the caller's interaction with the IP (unless the caller disconnects). The telephonic connection between the originating caller and the IP is said to be in an "Active" state according to AIN standards. The processing that occurs between the IP

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and ISCP in steps 5-11 <u>do not affect call state</u>. The signaling interaction among the ISCP

and IP in steps 5-11 relate to in-band interaction with the caller over the voice channel,

but do not constitute call state transitions – the call remains connected during this time.

Applicants note that the final Office Action is apparently confusing call state with

other call related processing, such as feature based processing. A call model, as is known

in this art and described above, is a representation of call-processing activities for

establishing, maintaining and clearing a basic call" (Bellcore Glossary – page 3).

Referring to Wheeler '920 at Fig. 6, the call forwarding application takes place in steps 5

through 10. The originating call state maintained at the SSP is not affected by this

activity, but rather is only affected when the call becomes initially connected (in step 4)

or when diverted in step 12. Thus, call state is maintained at the SSP and the call state is

held in a fixed state while other actions take place that do not affect call state. The

Examiner seems to be under the impression that any action that takes place in the course

of call processing, such as particular IP feature processing, affects call state. Yet in Fig. 6

of Wheeler '920, the call state remains in one condition (namely that the call is connected

to the IP) while other actions take place. Furthermore, Applicants point out that the

interaction between the IP and ISCP depicted in Fig. 6 still does not require or imply that

the ISCP must maintain call state or any other type of state information.

Applicants also assert that 'call handling instructions' are not 'a point in call', as

alleged in the final Office Action at page 3. The SCP in Wheeler '920 responds to a

query from an SSP or IP seeking call handling instructions. The related AIN concepts of

'points in call', 'trigger points' or 'detection points' are indicative of a call state model,

which in AIN, is a mechanism by which one of the external elements decides when to

consult a SCP for call handling instructions. Therefore, at the point when an SCP is consulted, the 'point in call' has already been determined outside of the SCP. Therefore, it is incorrect to say that the SCP in Wheeler '920 participates in identifying a point in call or, in essence, that it determines when to consult itself. The SCP in Wheeler '920 is conditionally sought for call handling instructions by other elements, so identifying or maintaining a point in call is not performed in the SCP. (Wheeler '920 – col. 5, lines 39-45)

Therefore, Applicants respectfully assert that the correlations of a trigger to a facility related event, call processing to a call state, a call forwarding application to a call model and call handling instructions to a point in call, as alleged in the final Office Action, are all erroneous correlations that are not supported by the actual disclosure of Wheeler '920 and are not consistent with the well known meaning of these terms to one of ordinary skill in the art.

In summary, the Examiner's assertions regarding statefulness of the ISCP 40 of Wheeler '920 are unsupported by, and contradictory to, the teachings of Wheeler '920. In addition, the Examiner's construction of various terms is inconsistent with well understood, thoroughly documented and commonly practiced implementations of AIN SCPs known to those of ordinary skill in this art.

Therefore, for at least the reasons discussed above, Wheeler '920 does not disclose or suggest a switch intelligence "which provides control functions for a switch fabric, said switch intelligence being logically separated from said switch fabric and being implemented in a separate network element from said switch fabric, the switch intelligence being configured to: process information received from the switch fabric, the

information comprising <u>a facility related event</u> associated with a call, <u>maintain a call state</u>

<u>associated with completing the call in accordance with a call model</u>, the call model

indicating how the information will be processed, <u>identify at least one point in call</u>

associated with completing the call, and forward a request for a telecommunications

function <u>in response to the identified at least one point in call</u>", as required by claim 1.

Claim 1 also recites that the switch fabric proxy service provides a normalized

interface between said switch fabric and said switch intelligence for communications

involving said switch fabric and interfacing to said switch intelligence with a uniform

application program interface, wherein the normalized interface comprises any one of a

plurality of vendor-specific interfaces associated with the switch fabric. Wheeler '920

does not disclose or suggest these features.

The final Office Action states that intelligent peripheral (IP) 35 or 37 of Wheeler

'920 is equivalent to the claim switch fabric proxy service. Applicants respectfully

disagree.

Since Wheeler '920 does not disclose or suggest the claimed switch intelligence,

Wheeler '920 cannot disclose or suggest that IP 35/37, or any other device, provides a

normalized interface between said switch fabric and <u>said switch intelligence</u> for

communications involving said switch fabric and <u>interfaces to said switch intelligence</u>

with a uniform application program interface, where the normalized interface comprises

any one of a plurality of vendor-specific interfaces associated with the switch fabric, as

required by claim 1. Further, IPs 35 and 37 of Wheeler '920 merely provide a service,

such as providing vocal announcements associated with direct talk modules 1203A and

1203B (Wheeler '920 – col. 27, line 10 to col. 28, line 5 and Fig. 4). This is not equivalent to a switch fabric proxy service as recited in claim 1.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of claim 1.

In response to arguments made in the previous response, the final Office Action at pages 7-8 states that "Examiner respectfully believes that Wheeler, Jr. teaches that the ISCP maintains a call state based on a call model as shown in Figure 6 and based upon the Remarks at page 22, lines 3-6. The information in Figure 6 clearly shows that the ISCP determines what information needs to be collected for processing a call. Therefore, Examiner respectfully disagrees with Applicants' arguments at [sic] that it is the CO-SSP which maintains a call state. The CO-SSP only responds to instructions from the ISCP."

The Examiner is presumably referring to Applicant's previous response wherein page 22 lines 3-6 read as follows: "...requested by an originating party, is established through the network to the terminating party and is eventually concluded. In the context of a telephone originating a call, for example, call states may include null, idle, off hook, collecting information, analyzing information, routing, alerting, etc. (See "Intelligent Network" by IEC at page 10)."

The AIN tutorial referenced in these remarks underscores that it is the SSP where the call model is expressed and where call state is maintained. The Examiner is respectfully reminded that both the AIN tutorial and the Bellcore Glossary indicate that the CO-SSP indeed maintains the call state and implements the applicable call state model. Furthermore, if by the latter statement the Examiner is arguing that the CO-SSP does not act on its own, but only responds to instructions from the ISCP, then this directly

contradicts the many indications in Wheeler '920 that the SSP often acts to handle routine

calls without even involving the ISCP (Wheeler '920 – col. 5, lines 35-39, col. 14, lines

50-54). The SSP may or may not consult the ISCP depending upon call circumstances as

determined at the SSP. This clearly indicates that the SSP maintains the call state, not

ISCP 40.

In Figure 6 of Wheeler '920, the initial digit collection in accordance with an

SSP-resident call state called 'COLLECTING_INFORMATION' involves receiving and

processing a dialed number as with a typical telephone call. By this interaction, the

caller becomes connected to the IP in steps 1-4. Once this connection has been made, the

call state in the SSP is "ACTIVE", just as with any successfully established telephone

connection. In the course of in-band interaction (audio through the telephone connection)

between the caller and the IP as depicted in steps 5 -10, further digit collection is

performed by the IP that does not affect call state and is not performed by the SSP. The

fact that the scenario in Figure 6 happens to show in-band digit collection by the IP does

not mean that this is the same digit collection or 'COLLECTING_INFORMATION' state

referred to in the AIN basic call state model nor does this indicate that the ISCP

maintains call state. Applicants respectfully believes that the final Office Action is

confusing this application-driven digit collection by the IP (occurring after a telephone

connection has been established thereto) with the more traditional initial digit collection

conventionally applied to handling of all dialed calls in accordance with a basic call state

model operating in the SSP. Again, careful review of the operation depicted in Figure 6

of Wheeler '920 reveals that the ISCP 40 is not maintaining the call state for the

originating party's connection.

The SSP in Wheeler '920 is able to consult the SCP database 43 for instructions and then carry them out. Sometimes the following of one instruction leads to another query of the SCP database 43. The SCP does need to maintain any call state for this to happen. However, **the remarks in the Action reflect a belief that the SCP must maintain call state in order to provide instructions to the SSP.** Contrary to the notion that seems to underlie the remarks in the final Office Action, **the SCP does not need to maintain call state in order to simply provide instructions to the SSP.** An SSP indicates in the query what routing information or instructions are being sought from the SCP. Every time the SSP or other entity consults the SCP, the SCP simply responds to the query.

Applicants maintain that Fig. 6 of Wheeler '920 is reflective of call state being maintained in the SSP and the SCP being consulted merely as a database repository for call handling instructions. In step 2 of Fig. 6, the "SSP suspends processing of the call and queries the ISCP for call routing instructions. At this point, the call state is held in a certain condition within the SSP while the SCP is consulted. The SSP process holds the call state in this condition (a state referred to in the AIN standards as 'ANALYZING_INFORMATION') until it receives instructions back from the ISCP in step 3 of FIG 6. Once the ISCP has provided instructions in step 3, the ISCP does not retain information about the call. Later, in steps 5-10, an IP performs a series of signaling transactions with the ISCP. In each of these transactions, the query message completely describes the circumstances of the call to indicate what information is sought from the ISCP. (Wheeler '920 at col. 30, lines 50-52; col. 31, lines 25-30, 39-43 and 59-67) In each instance, ISCP 40 performs database lookup based in information in the

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query, responds to each signaling message in isolation based solely on the information

provided in the query and, after responding, does not store any residual call state

information.

The Examiner's assertions that the call state does not reside in the SSP is directly

contrary to Wheeler '920 and to the definitive references in the industry. According to

the Bellcore Glossary at page 3, a basic call model is defined as a generic representation

of the basic call in terms of the SSP call processing activities. The IEC tutorial at page

10 states:

> If an active trigger is detected, normal switching system call processing is
> suspended until the SSP and SCP complete communications. For example in the diagram
> above, suppose an AIN call has progressed through the null state or the off-hook PIC and
> is currently at the collecting-information PIC. Normal call processing is suspended at the
> information-collected TDP because of an active off-hook delayed trigger. Before ·
> progressing to the next (analyze information) PIC, the SSP assembles an information-
> collected message and sends it to the SCP over the SS7 network. After SCP service logic
> acts on the message, the SCP sends an analyze-route message that tells the SSP how to
> handle the call before going to the next PIC (analyze information).

> Essentially, when the SSP recognizes that a call has an associated AIN trigger, the
> SSP suspends the call processing while querying the SCP for call routing instructions.
> Once the SCP provides the instruction, the SSP continues the call model flow until
> completion of the call. This is basically how a call model works and it is an important
> part of AIN. This concept differs from the pre-AIN switching concept which calls were
> processed from origination state to the call termination state without call suspension.

From the above, note that the progression from one PIC to another is maintained

within the SSP. Note also that Figure 6 of the IEC tutorial properly shows the call model

being in the AIN switch (SSP) and depicts the messaging interaction with the remote SCP

database. In AIN, call state is maintained according to the call model within the SSP.

The SCP is merely consulted by SSPs but does not retain any information about the state

of a given call. Note that, in the absence of any triggering situations for a given call, the

SSP would operate autonomously according to this internal call state model to successfully handle the call.

Therefore, the SSP in Wheeler '920, consistent with conventional AIN processing, maintains call state. The SSP only consults the SCP for instructions, but the SCP remains stateless. **Thus ISCP 40 does not maintain any indication of the state of a particular call.** With each call from the SSP, the SCP is provided with all the data needed to simply retrieve another instruction from the database. The SSP and SCP collaborate to provide call handling, with the SSP maintaining call state and the SCP providing a centralized database for call routing information. The contents of the SCP are provisioned to provide desired operation of the network without the SCP maintaining the state of any given call.

Again, if the Examiner persists in this line of reasoning, which is in opposition to Wheeler '920, Applicants respectfully request that the Examiner point specifically point to some portion of Wheeler '920 that provides support for the Examiner's interpretation since the portions already relied upon by the Examiner have been shown above to not support the allegations.

In addition, the final Office Action at page 8 states that the "Examiner disagrees that the ISCP does not store information about 'point in call' as argued in the Remarks at pages 26 to 27". As Applicants have pointed out, the ISCP of Wheeler '920 does not store information about the point in call of a particular call. Applicants conjecture as to whether Examiner may be confused with respect to the fact that the ISCP may be able to receive queries from an IP, such as IP 35 (Wheeler '920 – Fig. 2), and provide responses to the IP. This processing by ISCP 40, however, (as discussed in detail above), is not

tantamount to maintaining in any persistent fashion call state for a given call. In contrast,

ISCP 40 of Wheeler '920 (as described in detail above), does not maintain call state.

Again, ISCP 40 of Wheeler '920 does not maintain call state, but rather the SSP of

Wheeler '920 maintains call state and merely consults ISCP 40 (i.e., SCP database 43)

for guidance depending on call state conditions. The SSP in Wheeler '920 does NOT

relinquish call state maintenance to the ISCP. Contrary to the Examiner's statement that

"this reasoning contradicts the definitions in the Remarks", this understanding of the

operation of Wheeler '920 is entirely consistent with all of the teachings disclosed in

Wheeler '920 discussed in detail above. Without more specific comments from the

Examiner as to how this explanation contradicts the definitions set forth in the remarks,

Applicants do not see how it is possible for the Examiner to find any contradiction in the

explanations provided in the previous response.

In the Response to Arguments section, the Examiner further states that "Examiner

recalls confirming that Applicants' invention must have some sort of a trigger capability

to identify incoming calls before the calls are processed in the disclosed invention" (final

Office Action – page 8). Applicants respectfully assert that this is an inaccurate

characterization of what was explained to the Examiner. It should be kept in mind that a

'trigger' is primarily a terminology used in AIN. Applicants' invention may implement a

call state model with or without needing to employ a trigger, per se, which was primarily

a mechanism used to decide when an SSP would seek information from an SCP. It is not

clear here whether the Examiner is saying that the trigger capability must occur external

to Applicants' invention or simply temporally before any further processing within

Applicants' invention. As pointed out in Applicants' disclosure, there indeed may be

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service discriminating functions that determine when to invoke other functions.

Applicants are also perplexed by Examiner's reference to "identify incoming calls" and is

unsure of what is meant - particularly in what sense 'identify' is to be construed.

Accordingly, Applicants respectfully request clarification as to these statements in any

subsequent communication.

Finally, in the Response to Arguments section at page 8 of the final Office Action,

the Examiner states that "Figure 6 of Wheeler, Jr. clearly teaches that call state and point

in call are stored in the ISCP according to the definitions in the Remarks." Applicants

strongly disagree.

Applicants note that no portion of Wheeler '920 is pointed to for support with

respect to the alleged teachings of Wheeler '920. Again, the Examiner is apparently

equating 'call handling instructions' to a 'point in call'. However, as discussed in detail

above, ISCP 40 of Wheeler '920 does not participate in identifying a point in call. ISCP

40 is merely conditionally sought for call handling instructions by other elements, so

identifying a point in call is not performed in the SCP (Wheeler '920 – col. 5, lines 39-

45).

In summary, the Response to Arguments section of the final Office Action has

failed to demonstrate where ISCP 40 of Wheeler '920 supports the Examiner's

contentions as to the functions performed by ISCP 40. In addition, the actual disclosure

of Wheeler '920 clearly does not support the Examiner's allegations.

For at least the reasons discussed above, Wheeler '920 clearly does not disclose or

suggest each of the features of claim 1. Accordingly, withdrawal of the rejection and

allowance of claim 1 are respectfully requested.

Claims 2-8 depend from claim 1 and are believed to be allowable for at least the

reasons claim 1 is allowable. In addition, these claims recite additional features not

disclosed or suggested by Wheeler '920.

For example, claim 2 recites that switch intelligence comprises facility service

logic configured to represent bearer and signaling facilities of a party to the call, for

interacting with said switch fabric proxy service to communicate with said switch fabric.

Claim 2 also recites that the facility service logic is configured to receive the facility

related event and perform protocol processing on the information received from the

switch fabric, wherein the facility related event comprises at least one of an off-hook

indication, an on-hook indication or a wink.

The final Office Action states that Wheeler '920 discloses that the switch

intelligence includes facility service logic that represents bearer and signaling facilities of

a party to a call and points to Fig. 6 for support (final Office Action – page 4).

Fig. 6 of Wheeler '920 illustrates messages transmitted between a caller, the SSP,

ISCP and IP. Wheeler '920 discloses that CO-SSP 13 represents bearer and signaling

facilities of a party to the call. Wheeler '920 clearly does not disclose that ISCP 40

(alleged to be equivalent to the claimed switch intelligence) receives a facility related

event that comprises at least one of an off-hook indication, an on-hook indication or a

wink, as recited in claim 2.

For at least these additional reasons, withdrawal of the rejection and allowance of

claim 2 are respectfully requested.

Claim 4 recites that the switch intelligence comprises call segment logic

configured to represent a status of at least two call halves associated with completing the

call in accordance with the call model, and perform call processing for each of the at least two call halves. Similar to the terms call state and call model discussed above, the term "call half" has a well known meaning in this art. Further, the '109 patent defines a "call half" as corresponding to a participating member in a call (col. 6, lines 24-29). The final Office Action merely points to Fig. 6 of Wheeler '920 as allegedly disclosing these features (final Office Action – page 5). Fig. 6 of Wheeler '920, however, does not disclose or suggest that ISCP 40 performs call processing for call halves, as required by claim 4.

For at least these additional reasons, withdrawal of the rejection and allowance of claim 4 are respectfully requested.

Claim 5 recites that the switch intelligence comprises a call processing creation environment, where the call processing creation environment interacts with the switch intelligence for modifying the call model without modifying the switch fabric.

The final Office Action states that Wheeler '920 discloses a call process creation environment and points to service creation environment (SCE 42) and col. 34, lines 11-43 for support (final Office Action – page 5). Wheeler '920 at col. 34, lines 11-43 discloses that subscriber services are set up by a telephone company technician using SCE 42 in ISCP 40. Such subscriber services may include providing a personal greeting to callers, where the personal greeting is stored on a peripheral platform (Wheeler '920 – col. 34, lines 19-28). Programming subscriber services via SCE 42 is not equivalent to <u>modifying a call model</u>, much less modifying the call model <u>without modifying the switch fabric</u>, as recited in claim 5.

For at least these additional reasons, withdrawal of the rejection and allowance of claim 5 are respectfully requested.

Claim 9 recites an apparatus comprising a switch-fabric proxy service and switch intelligence. Claim 9 recites that the switch intelligence is configured to receive information from the switch fabric, perform call processing in accordance with a call model using the received information, maintain a status of at least two call halves associated with completing the call in accordance with the call model, and direct the switch fabric to make physical connections for each of the at least two call halves to complete the call.

Similar to the discussion above with respect to claims 1 and 4, ISCP 40 of Wheeler '920 does not perform call processing in accordance with a call model and does not maintain a status of call halves associated with completing the call in accordance with the call model, as required by claim 9.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of claim 9. Accordingly, withdrawal of the rejection and allowance of claim 9 are respectfully requested.

Claim 10 is dependent on claim 9 and is believed to be allowable for at least the reasons claim 9 is allowable. Accordingly, withdrawal of the rejection and allowance of claim 10 are respectfully requested.

Claim 11 recites an apparatus that includes switch intelligence configured to receive information associated with a call from a switch fabric, wherein the switch intelligence is implemented in a separate network element from a network element implementing the switch fabric, execute a call state machine, the call state machine

representing processing of the call as at least one call segment, wherein the at least one call segment corresponds to a call half, provide an association between the at least one call segment and at least one physical device associated with completing the call, and provide connection information to the switch fabric based on the association.

Similar to the discussion above with respect to claims 1 and 4, ISCP 40 of Wheeler '920 does not execute a call state machine, where the call state machine represents processing of the call as at least one call segment corresponding to a call half, as recited in claim 11. Wheeler '920 also does not disclose or suggest that ISCP 40 provides an association between the at least one call segment and at least one physical device associated with completing the call, as recited in claim 11, or that ISCP 40 provides connection information to the switch fabric based on the association, as further required by claim 11.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of claim 11. Accordingly, withdrawal of the rejection and allowance of claim 11 are respectfully requested.

Claims 12-21 depend from claim 11 and are believed to be allowable for at least the reasons claim 11 is allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler '920.

For example, claims 14, 16, 18, 20 and 21 each recite that the apparatus includes a switch-fabric proxy service for providing a normalized interface between said switch fabric and the switch intelligence for communications involving said switch fabric. Similar to the discussion above with respect to claim 1, Wheeler '920 does not disclose or suggest this feature.

For at least these additional reasons, withdrawal of the rejection and allowance of claims 14, 16, 18, 20 and 21 are respectfully requested.

Independent claim 22 recites an apparatus that includes switch intelligence logic configured to receive information from the at least one switch fabric, the information including a facility related event associated with a call, process the received information, maintain call states for parties involved in the call, and provide connection information to the at least one switch fabric for completing the call.

ISCP 40 of Wheeler '920 does not maintain call states for parties involved in a call, as required by claim 22. Similar to the discussion above with respect to claim 1, CO-SSP 13 (i.e., the switch fabric) maintains call states in the system of Wheeler '920.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of claim 22. Accordingly, withdrawal of the rejection and allowance of claim 22 are respectfully requested.

Claims 23-28 depend on claim 22 and are believed to be allowable for at least the reasons their respective independent claims are allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler '920.

For example, claim 23 recites that the processing logic is further configured to identify at least one point in the call where a telecommunications function is required, and send a request for the telecommunications function to a processor in response to the identified at least one point in the call.

Similar to the discussion above with respect to claim 1, ISCP 40 of Wheeler '920 does not identify at least one point in call where a telecommunications function is

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needed. For at least this additional reason, withdrawal of the rejection and allowance of claim 23 are respectfully requested.

Claim 25 recites that the apparatus further comprises a switch fabric proxy for providing a plurality of application programming interfaces for communications between the at least one switch fabric and the switch intelligence, wherein each of said plurality of application programming interfaces comprises at least one of a vendor-specific application programming interface or a switch-fabric-specific application programming interface.

IP 35 or 37 of Wheeler '920 does not provide a plurality of application programming interfaces as recited in claim 25. For at least this additional reason, withdrawal of the rejection and allowance of claim 25 are respectfully requested.

Claim 29 recites certain features similar to claim 22 in means plus function form. For reasons similar to those discussed above with respect to claim 22, withdrawal of the rejection and allowance of claim 29 are respectfully requested.

Claim 30 recites certain features similar to those recited in claim 1, in means plus function form. For reasons similar to those discussed above with respect to claim 1, withdrawal of the rejection and allowance of claim 30 are respectfully requested.

Claim 31 depends from claim 30 and is believed to be allowable for at least the reasons claim 30 is allowable. Accordingly, withdrawal of the rejection and allowance of claim 31 are respectfully requested.

Claim 32 recites an apparatus comprising a switch-fabric proxy service and a switch intelligence. Claim 32 recites that the switch intelligence is configured to execute a call model to generate connection information for completing a call corresponding to a

request received at a switch fabric, maintain call states for each party involved in the call in accordance with the call model, and forward the connection information to the switch fabric via the switch-fabric proxy service.

Similar to the discussion above with respect to claim 1, ISCP 40 of Wheeler '920 does not execute a call model to generate connection information for completing a call corresponding to a request received at a switch fabric. ISCP 40 also does not maintain call states for parties involved in the call in accordance with the call model, as further required by claim 32.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of claim 32. Accordingly, withdrawal of the rejection and allowance of claim 32 are respectfully requested.

Claims 33-39 depend from claim 32 and are believed to be allowable for at least the reasons claim 32 is allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler '920.

For example, claim 36 recites features similar to claim 5. For reasons similar to those discussed above with respect to claim 5, withdrawal of the rejection and allowance of claim 36 are respectfully requested.

Claim 40 recites an apparatus comprising a switch intelligence network element that comprises processing logic. Claim 40 also recites that the processing logic is configured to receive information from the switch fabric network element associated with a call and perform call half processing for parties associated with the call.

Similar to the discussion above with respect to claim 4, ISCP 40 of Wheeler '920 does not perform call half processing for parties associated with a call, as required by claim 40.

For at least this reason, Wheeler '920 does not disclose or suggest each of the features of claim 40. Accordingly, withdrawal of the rejection and allowance of claim 40 are respectfully requested.

Claims 41-43 depend from claim 40 and are believed to be allowable for at least the reasons claim 40 is allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler '920.

For example, Wheeler '920 does not disclose or suggest that ISCP 40 includes processing logic configured to perform the call half processing in accordance with a call model, where the call model represents at least one of an AIN call model or an ITU call model, as recited in claim 41.

For at least this additional reason, withdrawal of the rejection and allowance of claim 41 are respectfully requested.

Claim 44 recites an apparatus comprising a feature processor and switch intelligence. Claim 44 also recites that the switch intelligence is configured to receive data associated with a call, perform call half processing associated with parties to the call, and provide connection information to an entity that received the call, wherein the connection information identifies physical connections to complete the call, wherein the switch intelligence is implemented in at least one network element, the at least one network element being a separate network element from the entity that received the call.

Similar to the discussion above with respect to claim 40, ISCP 40 of Wheeler

'920 does not perform call half processing associated with parties to a call, as required by claim 44.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of claim 44. Accordingly, withdrawal of the rejection and allowance of claim 44 are respectfully requested.

Claim 45 recites that the apparatus comprises logic for processing information received from the switch fabric in accordance with a call model, logic for performing call half processing for parties involved in the call in accordance with the call model, and logic for forwarding connection information to the at least one switch fabric. Claim 45 also recites features similar to features recited in claims 1 and 4. For reasons similar to those discussed above with respect to claims 1 and 4, Wheeler '920 does not disclose or suggest each of the features of claim 45. Accordingly, withdrawal of the rejection and allowance of claim 45 are respectfully requested.

Claim 46 depends from claim 45 and is believed to be allowable for at least the reasons claim 45 is allowable. Accordingly, withdrawal of the rejection and allowance of claim 46 are respectfully requested.

Claim 47 recites that the call completion device is configured to forward a facility related event associated with a call to the switch intelligence and receive bearer connection information from the switch intelligence in accordance with a call model executed by the switch intelligence. Wheeler '920 does not disclose that CO-SSP 13 (alleged to be equivalent to the claimed call completion device) is configured to forward a facility related event associated with a call to ISCP 40, as required by claim 47. A facility related event, as discussed in the '109 patent, may include, for example, an on-

hook, off-hook or wink along with actual data received, such as DTMF digits, ISUP messages or Q.931 messages. CO-SSP 13 of Wheeler '920 does not forward a facility related event associated with a call to ISCP 40, as required by claim 47.

CO-SSP 13 of Wheeler '920 also does not receive bearer connection information from the switch intelligence in accordance with a call model executed by the switch intelligence, as further recited in claim 47.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of claim 47. Accordingly, withdrawal of the rejection and allowance of claim 47 are respectfully requested.

Claims 48 and 49 depend from claim 47. These claims are believed to be allowable for at least the reasons claim 47 is allowable. Accordingly, withdrawal of the rejection and allowance of claims 48 and 49 are respectfully requested.

Claim 50 is dependent on claim 47 and is believed to be allowable for at least the reasons claim 47 is allowable. In addition, Wheeler '920 does not disclose or suggest the claimed switch fabric proxy service recited in claim 50. Accordingly, for at least this additional reasons, withdrawal of the rejection and allowance of claim 50 are respectfully requested.

Claim 51 recites and apparatus comprising logic configured to receive information from an entity that received a request for making a call; logic configured to perform call half processing for a first party and a second party associated with the call; logic configured to generate connection information for the entity that received the request; and logic configured to forward the connection information to the entity that received the request. Applicants note that the features of claim 51 were rejected along

with claims 1, 22-25, 28-34, 40-43, 45-50 and 52-54 (final Office Action – page 2). The final Office Action, however, has not particularly addressed the features of claim 51. Therefore, a prima facie case under 35 U.S.C. § 102(e) has not been established with respect to claim 51. Applicants respectfully request that any subsequent communication particularly address the features of claim 51 or withdraw the rejection. In any event, Wheeler '920 does not disclose or suggest the features of claim 51. Accordingly, withdrawal of the rejection and allowance of claim 51 are respectfully requested.

Claims 52-54 are dependent on claim 51 and are believed to be allowable for at least the reasons claim 51 is allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler '920.

For example, claim 54 recites that the logic configured to perform call half processing maintains call states associated with completing the call in accordance with a call model. Again, this feature was not particularly addressed in the final Office Action. In any event, Wheeler '920 does not disclose or suggest this feature. For at least this additional reason, withdrawal of the rejection and allowance of claim 54 are respectfully requested.
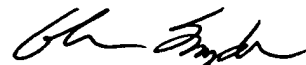
CONCLUSION

In view of the foregoing remarks, Applicants respectfully request withdrawal of the outstanding rejections and the timely allowance of this application. Applicants note that in the final Office Action, the Examiner invites Applicants' representatives to call the Examiner. Applicants' representatives appreciate this invitation, but believe that this response should clarify any outstanding issues. However, if the Examiner, after fully considering the Remarks above, believes that a telephone interview would be helpful, the Examiner is encouraged to contact Applicants' representatives at the number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-2347 and please credit any excess fees to such deposit account.

Respectfully submitted,

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